

# V. CLAIMS

- 1 1. Processing apparatus adapted to implement an artificial intelligence application, which  
2 application requires use of training sets having positive and negative examples, the apparatus  
3 comprising:  
4 • at least one memory adapted to store data and/or instructions;  
5 • at least one processor adapted to execute the following operations, using the at least one  
6 memory:  
7 • recognizing and maintaining a set of positive examples for training; and  
8 • upon completion of recognition of the set of positive examples, selecting a set of negative  
9 examples for training responsive to the set of positive examples.  
10  
11 2. The apparatus of claim 1, wherein the set of negative examples has a same number of  
12 members as the set of positive examples.  
13  
14 3. The apparatus of claim 1, wherein the artificial intelligence application is a content  
15 recommender.  
16  
17 4. The apparatus of claim 3, wherein the content is television shows.  
18  
19 5. The apparatus of claim 1, wherein  
20 • the positive and negative examples are describable in accordance with at least one feature,

the feature having a plurality of possible values within a feature space;

- the set of positive examples includes at least one subset, each subset including a respective plurality of members sharing a same respective value of a given feature in the feature space, the given feature being one that has been determined in advance to be a dominant feature in the feature space; and
- the set of negative examples includes at least one respective subset corresponding to the at least one subset of the set of positive examples, the members of each respective subset of negative examples being selected to share the same respective value of the given feature with the members of the subset of the set of positive examples that corresponds with the respective subset of negative examples.

6. The apparatus of claim 5, wherein the set of negative examples includes at least one respective second subset of negative examples, the members of the respective second subset of negative examples being selected to have a value of the given feature that lies within a predetermined range of the same value, but excluding the same respective value.

7. The apparatus of claim 6, wherein no negative example appears twice in the set of negative examples.

8. The apparatus of claim 5, wherein the given feature is time of day.

1 9. The apparatus of claim 1, wherein the operations include

2 • training the artificial intelligence application responsive to the positive and negative  
3 examples; and

4 • executing the artificial intelligence application to yield a processing result in a useful  
5 application.

1 10. Apparatus adapted to implement an artificial intelligence application, which application  
2 requires use of training sets having positive and negative examples, the positive and negative  
3 examples being describable in accordance with at least one feature, the feature having a  
4 plurality of possible values within a feature space, the apparatus comprising:

5 • at least one memory adapted to store data and/or instructions;

6 • at least one processor adapted to execute the following operations, using the at least one  
7 memory:

8 • recognizing and maintaining a set of positive examples for training, the set of positive  
9 examples including at least one subset, each subset including a respective plurality of  
10 members sharing a same respective value of a given feature in the feature space, the given  
11 feature being one that has been determined in advance to be a dominant feature in the  
12 feature space; and

13 • selecting a set of negative examples for training, the set of negative examples including at  
14 least one respective subset corresponding to the at least one subset of the set of positive

15 examples, the members of each respective subset of negative examples being selected to  
 16 share the same respective value of the given feature with the members of the subset of the  
 17 set of positive examples that corresponds with the respective subset of negative examples.

11. The apparatus of claim 10, wherein the artificial intelligence application is a content recommender.

12. The apparatus of claim 11, wherein the content is television shows.

1 13. The apparatus of claim 10, wherein the set of negative examples includes at least one  
 2 respective second subset of negative examples, the members of the respective second subset  
 3 of negative examples being selected to have a value of the given feature that lies within a  
 4 predetermined range of the same respective value, but excluding the same respective value.

14. The apparatus of claim 10, wherein no negative example appears twice in the set of negative examples.

15. The apparatus of claim 13, wherein the given feature is time of day.

1 16. Apparatus adapted to implement an artificial intelligence application, which application  
 2 requires use of training sets having positive and negative examples, the positive and negative

3 examples being describable in accordance with at least one feature, the feature having a

4 plurality of possible values within a feature space, the apparatus comprising:

- 5 • at least one memory adapted to store data and/or instructions;
- 6 • at least one processor adapted to execute the following operations, using the at least one
- 7 memory:
  - 8 • recognizing and maintaining a set of positive examples for training, the set of positive
  - 9 examples including at least one subset, each subset including a plurality of members
  - 10 sharing a same respective value of a given feature in the feature space, the given feature
  - 11 being one that has been determined in advance to be a dominant feature in the feature
  - 12 space; and
  - 13 • selecting a set of negative examples for training, the set of negative examples includes at
  - 14 least one respective subset of negative examples, the members of the respective subset of
  - 15 negative examples being selected to have a value of the given feature that lies within a
  - 16 predetermined range of the same respective value, but not including the same respective
  - 17 value.

17. The apparatus of claim 16, wherein the artificial intelligence application is a content recommender.

18. The apparatus of claim 17, wherein the content is television shows.

19. The apparatus of claim 16, wherein no negative example appears twice in the set of negative examples.

20. The apparatus of claim 16, wherein the given feature is time of day.

21. Processing apparatus adapted to implement an artificial intelligence application, which application requires use of training sets having positive and negative examples, the apparatus comprising:

- at least one memory adapted to store data and/or instructions;
- at least one processor adapted to execute the following operations, using the at least one memory:
  - recognizing and maintaining a set of positive examples for training; and
  - selecting a set of negative examples for training, responsive to the positive examples, wherein no member of the set of negative examples appears twice.

22. The apparatus of claim 21, wherein the artificial intelligence application is a content recommender.

23. The apparatus of claim 22, wherein the content recommender recommends television shows.